BRUHATH BANGALORE MAHANAGARA PALIKE

BYATARAYANAPURA DIVISION

Name of the work: Comprehensive Development for Roads and Drains in Ward no. 9, 10 and 11 Under CMC and TMC Grants, Vidyaranyapura Sub-Division, Yelahanka Zone, Byatarayanapura Division.

Second RA Bill
Test Reports

TEJUS
CONSULTANTS

No. TC / BBMP / BYT PURA DIVISION/ 0108 / 17 – 18

Date: 28/02/2018

To

The Executive Engineer

Byatarayanapura Divison

Bruhat Bangalore Mahanagara Palike

Bangalore – 560 092

Dear Sir

Sub: **Second RA bill for the work of Comprehensive Development for Roads and Drains in Ward no. 9, 10 and 11 Under CMC and TMC Grants, Vidyaranyapura Sub-Division, Yelahanka Zone, Byatarayanapura Division.**

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **Second RA bill** submitted by M/S Ram and Company, Engineers & Contractors. # 10,3rd Floor, Puttaiah Compound, 80 Ft Road, Ashwath Nagar, RMV 2nd Stage Banglore-94, towards the above said work and arrived at an amount of **Rs. 6,51,44,409.91/-(Rupees Six Crore Fifty One Lakh Forty Four Thousand Four Hundred Nine and Ninety one Paise Only**). The work has been completed satisfactorily

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

TEJUS CONSULTANTS

For Tejus Consultants
(Nischal M)

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Plastering/Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	18/12/2017
Period of Soaking	**24 hours**	**Date of Testing**	18/12/2017

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	665	645	650	
B	Weight of oven - dry sample gm.	657	637	642	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1693	1682	1683	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.660	2.676	2.653	**2.663**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.218	1.256	1.246	**1.240**

TEJUS CONSULTANTS

28/2/18

28.2.2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms			
Type of Materia	**Fine aggregate (River Sand/M sand)**	**Proposed Use**	Plastering/Concrete	
Sample Location	At Plant/site	**Date of Sampling**	18/12/2017	
		Date of Testing	18/12/2017	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	233	233	7.77	92.23	90 - 100
2.36 mm	278	511	17.03	82.97	75 - 100
1.18 mm	494	1005	33.50	66.50	55 - 90
0.600 mm	576	1581	52.70	47.30	35 -59
0.300 mm	654	2235	74.50	25.50	8-30
0.150 mm	522	2757	91.90	8.10	0 - 10
Pan	243	3000			-

Remarks : Satisfactory / Not Satisfactory

21/2/18

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

Test Report on Cement

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	18/12/17
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	38 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	346 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

TEJUS CONSULTANTS

28/2/2018

Assistant Executive Engineer
Vidyaranyapura Sub Divisio
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/S Ram and Company, Engineers & Contractors.				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	**Column Concrete**	
Sample Location	At Plant		**Date of Sampling**	20/12/2017	
			Date of Testing	20/12/2017	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	272	272	2.72	97.28	**95 - 100**
10.00 mm	4892	5164	51.64	48.36	**25 - 55**
4.75 mm	4252	9416	94.16	5.84	**0 - 10**
Pan	584	10000			

Remarks : Satisfactory / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	Column Concrete	
Sample Location	Plant		Date of Sampling	20/12/17	
			Date of Testing	20/12/17	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	562	562	5.62	94.38	90-100
10.0	3246	3808	38.08	61.92	40-85
4.75	5214	9022	90.22	9.78	0-10
Pan	978	10000			

Remarks : Satisfactory / Not Satisfactory

28/2/2018

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP Bangalore - 97

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Plastering/Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	20/12/17
Period of Soaking	**24 hours**	**Date of Testing**	20/12/17

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	635	655	680	
B	Weight of oven - dry sample gm.	628	646	669	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1673	1688	1703	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.650	2.669	2.655	**2.658**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.115	1.393	1.644	**1.384**

28/12/2017.

Assistant Executive Engineer
Vidyaranyapura Sub Division
[illegible]P, Bangalore - 97

TEJUS
CONSULTANTS

Test Report on Cement

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	20/12/17
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	36 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	356 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

28/2/2018.

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

Test Report on Cement

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	20/12/17
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	38 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	381 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	

28/2/2018

TEJUS CONSULTANTS

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Plastering/Concrete	
Sample Location	At Plant/site		**Date of Sampling**	20/12/17	
			Date of Testing	20/12/17	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	222	222	7.40	92.60	**90 - 100**
2.36 mm	278	500	16.67	83.33	**75 - 100**
1.18 mm	412	912	30.40	69.60	**55 - 90**
0.600 mm	592	1504	50.13	49.87	**35 -59**
0.300 mm	764	2268	75.60	24.40	**8-30**
0.150 mm	476	2744	91.47	8.53	**0 - 10**
Pan	256	3000			**-**

Remarks : Satisfactory / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
[illegible] Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in g	3000

SIEVE ANALYSIS

Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	At Site			Date of Sampling	21/12/2017
				Date of Testing	21/12/2017

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	96	96	3.20	96.80	95-100
20.00mm	1432	1528	50.93	49.07	30-70
10.00mm	648	2176	72.53	27.47	10-35
4.75mm	718	2894	96.47	3.53	0-5
Pan	106	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Location:	
Grade of concrete:	M25 (Footing)
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	21/12/17	28/12/17	7 days	8.530	22500	391	17.38	17.36
2	21/12/17	28/12/17	7 days	8.522	22500	393	17.47	
3	21/12/17	28/12/17	7 days	8.526	22500	388	17.24	

28/12/2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Location:	
Grade of concrete:	M25 (Slab)
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	21/12/17	18/01/18	28 days	8.542	22500	566	25.16	25.38
2	21/12/17	18/01/18	28 days	8.536	22500	569	25.29	
3	21/12/17	18/01/18	28 days	8.561	22500	578	25.69	

28/2/2018

TEJUS CONSULTANTS

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

CIVIL XPERTS
ISO 9001:2015
CONSULTANTS & TESTING CENTER

174, Sri Ranga Complex
Amrutha Nagar Main Road
New Bank Colony, Konanakunte
Bangalore - 560 062.
Mobile : +91 97429 59595
Tele/Fax : 080-2632 2565
E-mail : civilexpertsltd@gmail.com
URL : www.civilexperts.in

NABL ACCREDITED AS PER ISO/IEC 17025:2005

Job No.: CECTC/BBMP/QC/2017-18

Date: 25.12.2017

TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Client : **Bruhat Bangalore Mahanagar Palike**

Name of Work : COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.

Contractor : M/S Ram and Company, Engineers & Contractors.

Sample Identification : 10mm, 12mm, 16mm, 25mm TMT Bars

Technical Reference : IS 1786:2008, IS 1608:2005, IS 1599:1985 (Reaffirmed 2006)

Date of test : 25.12.2017

S.No	Brand	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
				0.20 % proof stress/ yield stress ($N/mm^{2)}$	Tensile strength ($N/mm^{2)}$	Elongation, percent on gauge length
1	Fe 500	10	0.620	533	556	17
2	Fe 500	12	0.889	569	583	18
3	Fe 500	16	1.580	592	610	20
4	Fe 500	25	2.450	612	632	22

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 15 days from the date of testing.

28/2/2018

For Civil Experts

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

Authorised Signature

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/S Ram and Company, Engineers & Contractors.				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	**Column Concrete**	
Sample Location	At Plant		**Date of Sampling**	25/12/2017	
			Date of Testing	25/12/2017	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	268	268	2.68	97.32	**95 - 100**
10.00 mm	4762	5030	50.30	49.70	**25 - 55**
4.75 mm	4325	9355	93.55	6.45	**0 - 10**
Pan	645	10000			

Remarks : Satisfactory / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	Column Concrete	
Sample Location	Plant		Date of Sampling	25/12/17	
			Date of Testing	25/12/17	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	562	562	5.62	94.38	90-100
10.0	3268	3830	38.30	61.70	40-85
4.75	5426	9256	92.56	7.44	0-10
Pan	744	10000			

Remarks : Satisfactory / Not Satisfactory

28/12/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	Slab and Beam Concrete	
Sample Location	Plant		**Date of Sampling**	25/12/17	
			Date of Testing	25/12/17	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	562	562	5.62	94.38	90-100
10.0	3980	4542	45.42	54.58	40-85
4.75	4826	9368	93.68	6.32	0-10
Pan	632	10000			

Remarks : Satisfactory / Not Satisfactory

28/2/2018

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	**Slab and Beam Concrete**	
Sample Location	At Plant		**Date of Sampling**	25/12/2017	
			Date of Testing	25/12/2017	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	268	268	2.68	97.32	**95 - 100**
10.00 mm	4826	5094	50.94	49.06	**25 - 55**
4.75 mm	4124	9218	92.18	7.82	**0 - 10**
Pan	782	10000			

Remarks : Satisfactory / Not Satisfactory

28/12/2018

Consultant's Representative

28.12.2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**Sand/M sand**	**Proposed Use**	Plastering/Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	25/12/17
Period of Soaking	**24 hours**	**Date of Testing**	25/12/17

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	680	665	675	
B	Weight of oven - dry sample gm.	672	655	664	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1702	1693	1701	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.656	2.652	2.667	**2.658**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.190	1.527	1.657	**1.458**

28/2/2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**Fine aggregate (River Sand/M sand)**		**Proposed Use**	Plastering/Concrete	
Sample Location	At Plant/site		**Date of Sampling**	25/12/17	
			Date of Testing	25/12/17	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	198	198	6.60	93.40	**90 - 100**
2.36 mm	278	476	15.87	84.13	**75 - 100**
1.18 mm	422	898	29.93	70.07	**55 - 90**
0.600 mm	608	1506	50.20	49.80	**35 -59**
0.300 mm	786	2292	76.40	23.60	**8-30**
0.150 mm	474	2766	92.20	7.80	**0 - 10**
Pan	234	3000			**-**

Remarks : Satisfactory / Not Satisfactory

28/12/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
CONSULTANTS

Test Report on Cement

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	25/12/17
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	38 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	378 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	

28/2/2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Test report on Compressive strength of concrete cubes

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Location:	VIDYARANYAPURA SUB-DIVISION
Grade of concrete:	M25 (column)
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27/12/17	03/01/18	7 days	8.822	22500	382	16.98	17.19
2	27/12/17	03/01/18	7 days	8.926	22500	391	17.38	
3	27/12/17	03/01/18	7 days	8.722	22500	387	17.20	

28/2/2018

TEJUS CONSULTANTS

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
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Test report on Compressive strength of concrete cubes

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Location:	VIDYARANYAPURA SUB-DIVISION
Grade of concrete:	M25 (Column and Lintel)
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27/12/17	24/01/18	28 days	8.582	22500	568	25.24	25.38
2	27/12/17	24/01/18	28 days	8.762	22500	572	25.42	
3	27/12/17	24/01/18	28 days	8.560	22500	573	25.47	

28/2/2018

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	60000mm2
Size of cube	400mm x 150mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	01/01/18	01/01/18	60000	305.00	5.08	5.07
2	01/01/18	01/01/18	60000	306.00	5.10	
3	01/01/18	01/01/18	60000	302.00	5.03	

28/2/2018

TEJUS CONSULTANTS
Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	60000mm2
Size of cube	400mm x 150mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	01/01/18	01/01/18	60000	308.00	5.13	5.13
2	01/01/18	01/01/18	60000	310.00	5.17	
3	01/01/18	01/01/18	60000	306.00	5.10	

28/2/2018

Consultant's Representative

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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	80000mm2
Size of cube	400mm x 200mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	04/01/18	04/01/18	80000	402.00	5.03	5.06
2	04/01/18	04/01/18	80000	412.00	5.15	
3	04/01/18	04/01/18	80000	400.00	5.00	

28/2/2018

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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	80000mm2
Size of cube	400mm x 200mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	04/01/18	04/01/18	80000	402.00	5.03	5.06
2	04/01/18	04/01/18	80000	412.00	5.15	
3	04/01/18	04/01/18	80000	400.00	5.00	

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	80000mm2
Size of cube	400mm x 200mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	04/01/18	04/01/18	80000	410.00	5.13	5.12
2	04/01/18	04/01/18	80000	407.00	5.09	
3	04/01/18	04/01/18	80000	412.00	5.15	

28/2/2018.

Consultant's Representative

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Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Test Report on Compressive strength of Solid Block

Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	80000mm2
Size of cube	400mm x 200mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	04/01/18	04/01/18	80000	414.00	5.18	5.16
2	04/01/18	04/01/18	80000	413.00	5.16	
3	04/01/18	04/01/18	80000	411.00	5.14	

28/2/208

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/S Ram and Company, Engineers & Contractors.				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	**Slab and Beam Concrete**	
Sample Location	At Plant		**Date of Sampling**	12/01/2018	
			Date of Testing	12/01/2018	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	242	242	2.42	97.58	**95 - 100**
10.00 mm	4524	4766	47.66	52.34	**25 - 55**
4.75 mm	4262	9028	90.28	9.72	**0 - 10**
Pan	972	10000			

Remarks : Satisfactory / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

TEJUS
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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	COMPREHENSIVE DEVELOPMENT FOR ROADS AND DRAINS IN WARD NO. 9, 10 AND 11 UNDER CMC AND TMC GRANTS, VIDYARANYAPURA SUB-DIVISION, YELAHANKA ZONE, BYATARAYANAPURA DIVISION.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	Slab and Beam Concrete	
Sample Location	Plant		Date of Sampling	12/01/2018	
			Date of Testing	12/01/2018	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	602	602	6.02	93.98	90-100
10.0	4110	4712	47.12	52.88	40-85
4.75	4582	9294	92.94	7.06	0-10
Pan	706	10000			

Remarks : ~~Satisfactory~~ / Not Satisfactory

28/2/2018

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97